

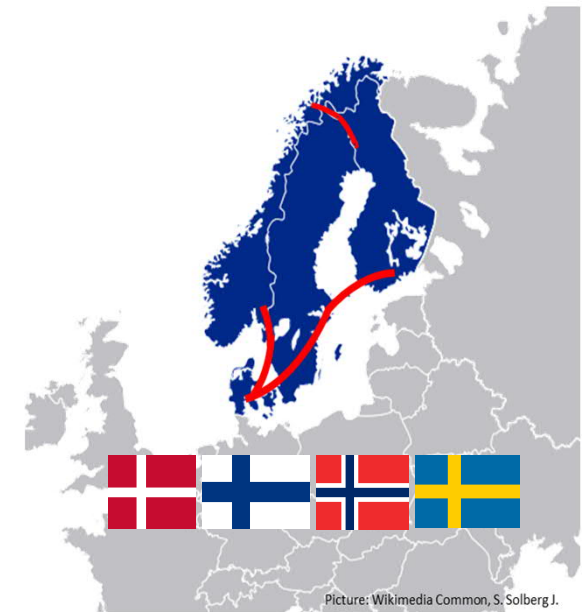
Nordic Way 2 Ecosystem evaluation

Dr. Petri Mononen

November 6th 2019
C-ITS deployment and evaluation workshop
World Trade Center / Engie, Brussels



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Nordic Way 2 Ecosystem evaluation



Content

- Set-up and methodology
- Sneak-peak to interim results



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Set-up and methodology



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Nordic Way 2 Ecosystem evaluation



A contracted team is carrying out the evaluation of the Nordic Way 2 C-ITS pilot ecosystems.

In accordance with Nordic Way 2 Evaluation Plan, the ecosystems are studied in all piloting countries, based on homogenous & comparable principles.



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Ecosystems to pilot C-ITS services (or service clusters):

		C-ITS services		FI	NO	SE
Day 1 services	Hazardous location notifications	1	Slow or stationary vehicle(s) & traffic ahead warning	FI.1	NO.1	
		2	Roadworks Warning	FI.2	NO.2	SE.2
		3	Weather and road condition	FI.3	NO.3	
		4	Emergency brake light	-	NO.4	
		5	Emergency vehicle approaching	FI.5		SE.5a&b
		6	Other hazards	FI.6	NO.6	
	Signage applications	7	In-vehicle signage	FI.7	NO.7	
		8	In-vehicle speed limits	FI.8	NO.8	
		9	Signal violation / intersection safety	FI.9	NO.9	
		10	Traffic signal priority request by designated vehicles	FI.10		SE.10
		11	Green light optimal speed advisory (GLOSA)	FI.11		SE.11
Day 1.5 services	12	Information on alternative fuel vehicle fuelling & charging stations	-	NO.12		
	13	On street parking information and management	-	NO.13		
	14	Traffic information & smart routing	FI.14	NO.14	SE.14	
	15	Cooperative collision risk warning	-	NO.15		



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- Main focus is in discovery of ecosystem actors' perception on viability, feasibility, resiliency and profitability of providing C-ITS services as a group.
- Not focusing on technological challenges.
- Main data collection method is via 2 sets of workshops - in addition to existing background, data and prior communication.
- Note: Our "definition of an ecosystem" is kept somewhat flexible (service <-> pilot <-> consortium <-> ecosystem <-> federation...)



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Tasks in ecosystem evaluation

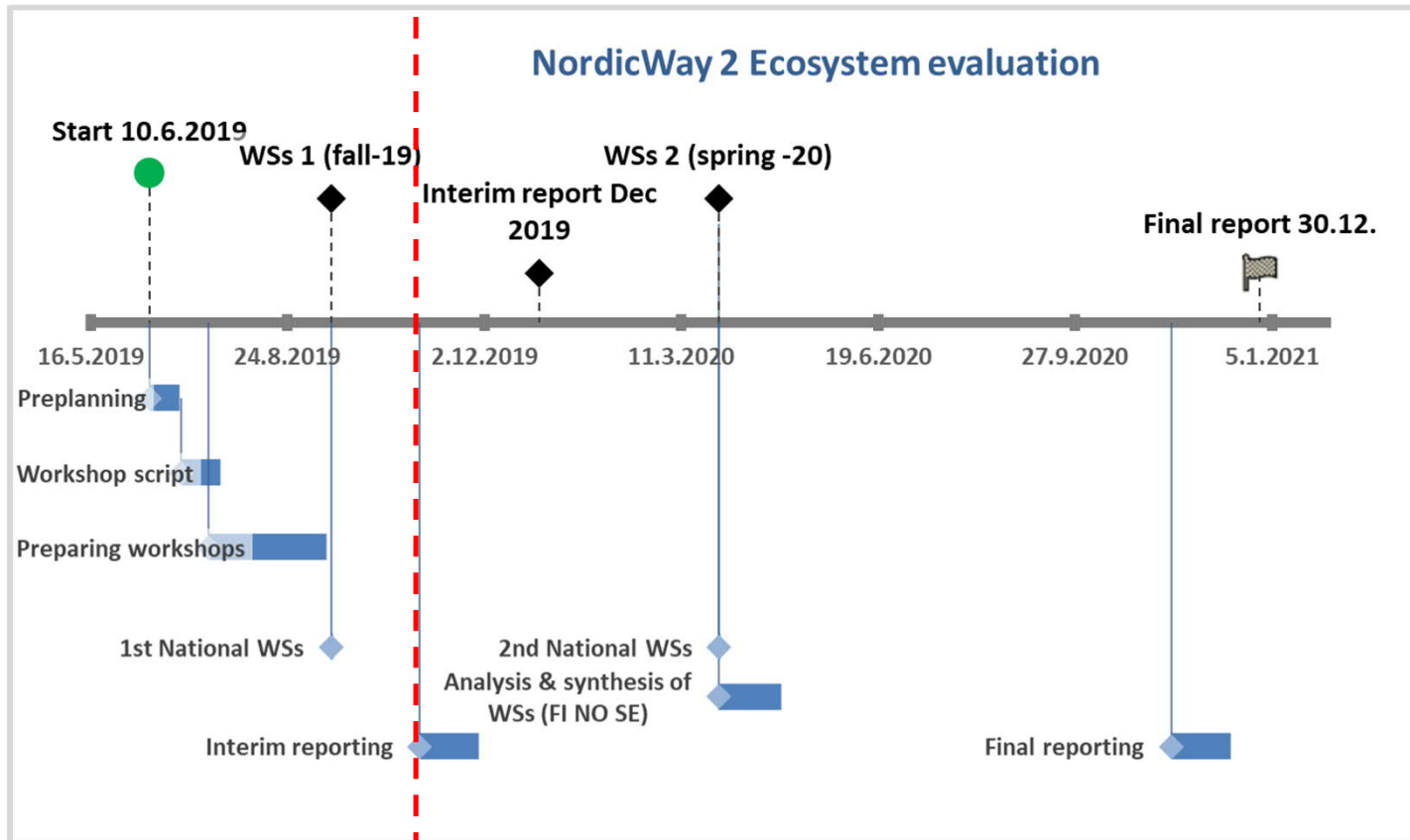


Task	Description
Start-up	(i) Discussions with the NW2 evaluation group and Nordic contact persons (ii) seminar with the Finnish ecosystems and (iii) synchronization meeting between the 4 evaluation processes. (ecosystems & technical & user acceptance & socio-economic impact)
Workshop scripting	Charting out the characteristics of national implementations, and the effects of these to evaluation. WS script is based on this and the work plan. Background includes e.g. C-ITS Platform Business models group report, SRTI PoC MoU (Data for road safety), C-ITS Platform Horizontal Business model WG draft final report etc.
Organizing WSs & reporting	Guidance to national organizers. Translations to national languages to be done nationally, as well as reporting back in English to VTT.
1 st Workshops in FI, NO & SE	National organizers implement these in each country, starting autumn 2019.
Summary of 1 st WSs	Short summary and lessons learned for enhancing 2 nd workshops. Interim report.
2 nd Workshops in FI, NO & SE	National organizers implement these in each country, spring 2020.
Synthesis report (Ecosystem evaluation report)	WS results, data analysis, synthesis. Answers to RQs. Analysis to be linked to other ongoing evaluation work -> All to be integrated into Nordic Way 2-evaluation report.

Research questions of ecosystem evaluation

Research questions - this is what we want to extract	Indicators / KPIs	Output format
What should be taken into account in forming a service ecosystem? What defines an "ideal" ecosystem?	Acceptability / attractiveness of the Business-case (to the ecosystem partners)	Description (qualitative)
	The feasibility of the ecosystem (build up phase and resilience)	Description (qualitative)
	Roles for (i) for private actors, (ii) for public actors, and (iii) what are the "must have players" in the ecosystem(s)	Description (qualitative)
What problems and challenges have been encountered? (i.e. both challenges encountered thus far and now foreseeable challenges)	Encountered problems and challenges in the ecosystem	Listing / table
What is the business potential of the service? (e.g. perceived, anticipated, modelled or observed potential, from the actor perspective)	Business potential (Including the business in the NW2 pilot subject matter plus additionally any potential for uprising future opportunities nationally or internationally.)	Description (qualitative) - where possible, some quantitative data included (expected/potential number of users, turnover, etc.)
What are the most important things to be taken into account (and solved) in the service development and provision phases, in short term and in medium term?	Issues in implementing the service	Listing / table

Overall timeline



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Some initial picks from early results (limited data)



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Similar data collected from each ecosystem

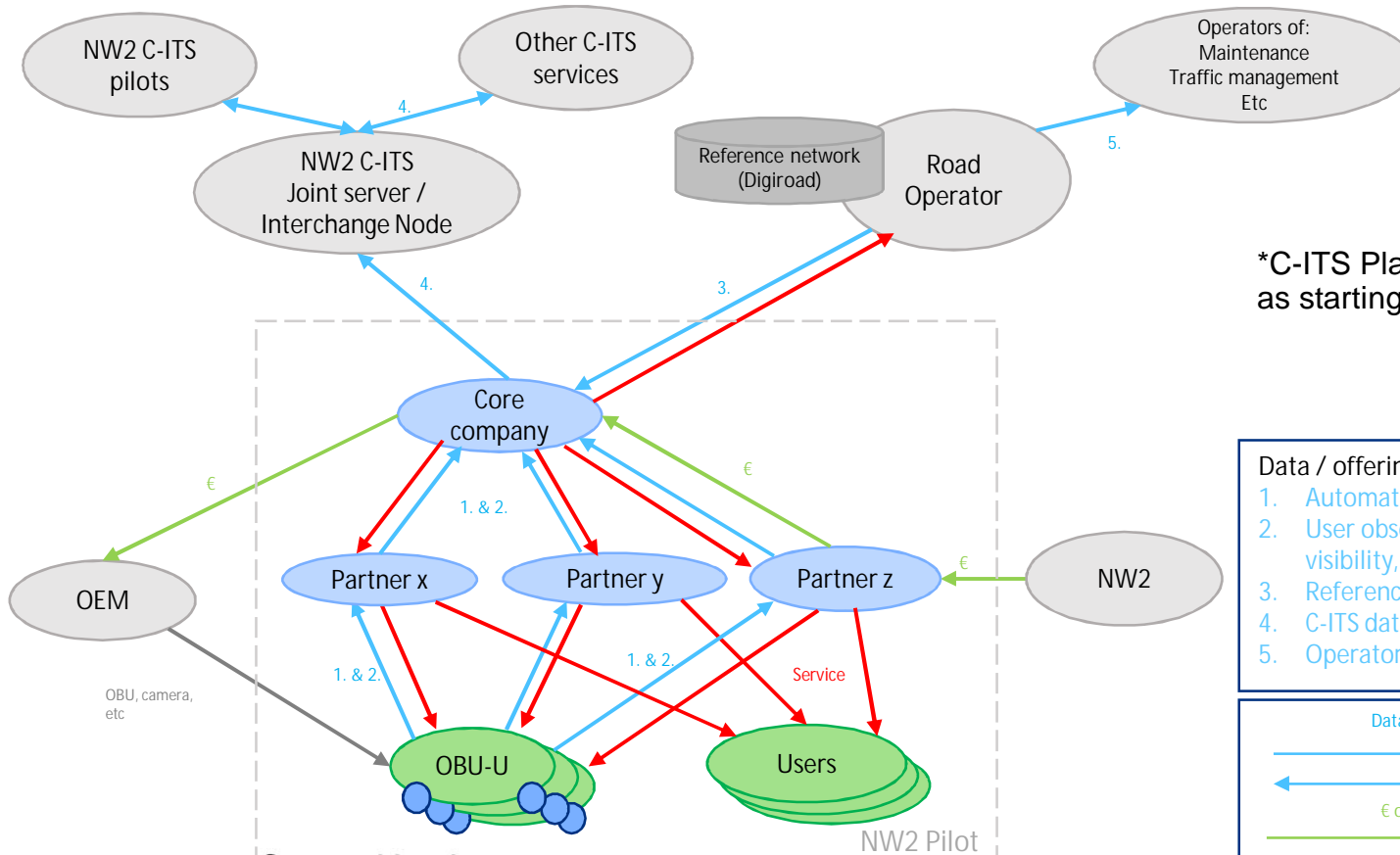


Note: the data examples on this slide were briefly showed at the workshop but not publishable yet.



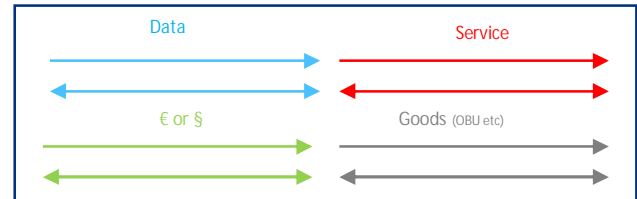
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C-ITS Value Network Model – prepared template* for Current state



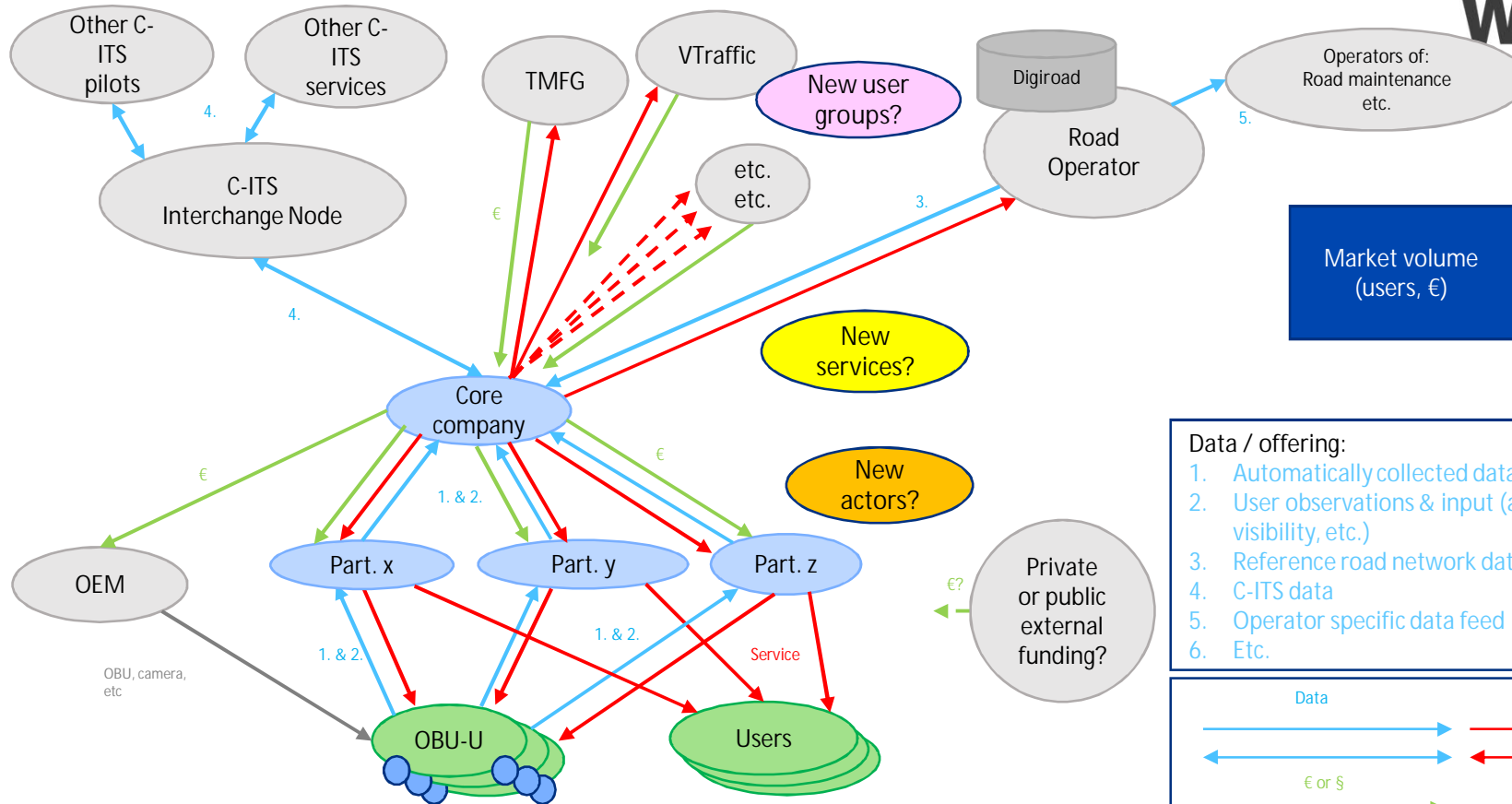
*C-ITS Platforms final report model as starting point

- Data / offering:
1. Automatically collected data (Camera, etc.)
 2. User observations & input (animal, slippery, visibility, etc.)
 3. Reference road network data (Digiroad)
 4. C-ITS data
 5. Operator specific data feed



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C-ITS Value Network Model – template for Scaled up state (short...mid term future)



Data / offering:

1. Automatically collected data (Camera, etc.)
2. User observations & input (animal, slippery, visibility, etc.)
3. Reference road network data (Digiroad)
4. C-ITS data
5. Operator specific data feed
6. Etc.

Data	Service
→	→
←	←
→ (€ or \$)	← (Goods (OBU etc))
←	→

Top: status now

Bottom: initial scale-up



Note: the data examples on this slide were briefly showed at the workshop but not publishable yet.



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Some initial picks from results – note, analysis is only just starting!

Ramp-up challenges:

- Contracts (especially GDPR **personal data** implications)
- Data quality assurance across ecosystem
- Service coverage (geographical)
- Interchange node limitations
- ~~*Datex version discrepancies etc.*~~ (tech.)



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Some initial picks from results – note, analysis is only just starting!

Pains, Gains, Commitment:

- P: “Integrator pain”, attracting users, product development investment, data costs ...
- G: Revenue, clientele growth, product portfolio, international partnerships, also operational ones (“safe and fluent material flows”, ecosystem partner as primary user) ...
- C: Active actor in the market, heavily involved in RDI, supports strategic objectives / corporate strategy ...



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Some initial picks from results – note, analysis is only just starting!

Business model (feasibility, scalability, long term sustainability, profit):

- “If there is public data, there needs to be public co-funding.”
 - Direct revenue collection pipeline stops at publication of data
- “Revenue streams from individual private users may be thin.”
 - “Grouping synergy”: insurers, employers, etc. as primary clients?
- Scaling up ideas are now there and brewing - but not too concrete yet
 - 2nd WS series continues from this aspect -> advanced maturity



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More results in the Nordic Way 2 Interim Evaluation Report.



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Thank you!

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